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(54) **MULTILAYER STRUCTURE INCLUDING  
DIFFUSION BARRIER LAYER AND DEVICE  
INCLUDING THE MULTILAYER  
STRUCTURE**

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(57) **ABSTRACT**

A multilayer structure includes a first material layer, a second material layer, and a diffusion barrier layer. The second material layer is connected to the first material layer. The second material layer is spaced apart from the first material layer. The diffusion barrier layer is between the first material layer and the second material layer. The diffusion barrier layer may include a two-dimensional (2D) material. The 2D material may be a non-graphene-based material, such as a metal chalcogenide-based material having a 2D crystal structure. The first material layer may be a semiconductor or an insulator, and the second material layer may be a conductor. At least a part of the multilayer structure may constitute an interconnection for an electronic device.

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